NOTES ON THE TAXONOMY OF *MAYTENUS PHYLLANTHOIDES* (CELASTRACEAE)

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ABSTRACT

Maytenus phyllanthoides var. *ovalifolia* Loes. (= *M. texana* Lundell) of southern Texas and adjacent Tamaulipas, Mexico, is considered here to be a distinct entity appropriately treated at varietal rank. They differ from typical plants in their oblong-elliptic to obovate-elliptic, short-petiolate leaves rounded at the base and their consistent tendency to grow as prostrate shrubs.
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KEY WORDS: *Maytenus phyllanthoides*, *M. phyllanthoides* var. *ovalifolia*, *M. texana*, Texas

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Maytenus phyllanthoides occurs widely in coastal and near-coastal Mexico—along the Gulf and Pacific coasts—as well as saline sites in some inland areas (e.g., Coahuila, Nuevo León, Puebla, Hidalgo, Querétaro). It extends eastward to Cuba, the Bahamas, and Florida, where it occurs in 10 peninsular and Keys counties (Wunderlin & Hansen 2008). A closely similar form occurs in five counties of southernmost Texas (Turner et al. 2003)—along the Gulf Coast in both areas.

Over its whole range, plants of typical *Maytenus phyllanthoides* are erect shrubs to small trees 1–3 meters tall, monoecious with unisexual flowers. The leaves are coriaceous, evergreen, and obovate with entire margins, rounded apices, and long-tapering, straight-sided bases.

The Texas populations were described in 1939 as *Maytenus texana* Lundell; the same population system had been named in 1910 as *M. phyllanthoides* var. *ovalifolia* Loes., based on a collection from

immediately adjacent Tamaulipas, Mexico. Lundell (1939, p. 307) noted that "The oblong-elliptic or obovate-elliptic, short-petiolate leaves rounded at the base, and the smaller rufous-punctate flowers distinguish *M. texana* from *M. phyllanthoides* Benth., its closest relative. In the latter, the leaves are obovate, cuneate at the base, larger, and have much longer petioles." Loesener's diagnosis described the same leaf morphology later noted by Lundell as characteristic: "Foliis ellipticis vel ovalibus vel obovatis basi rotundatis vel obtusis neque cuneatus a typo recedens." The difference in leaf shape between typical *M. phyllanthoides* and the variants is confirmed here and a distinction in growth habit also is evident.

Correll and Johnston (1970) described the species in Texas as "A much-branched spreading or prostrate shrub," and various collectors have made similar observations.

Correll 38283 (TEX): "creeping on ground and forming low shrubs"
Correll & Johnston 17955 (LL): "repent or widely decumbent shrub forming growths 2–4 ft. in diameter"
Correll & Wasshausen 27676 (LL, MO): "sprawling on ground"
Cory 54601 (LL): "shrub 3 dm. high or less"
Ertter 5242 (TEX): "spreading to prostrate"
Lundell 1255 (MO): "shrub up to 2 m high, erect or prostrate, rooting at the nodes of prostrate branches"
Lundell 10708 (LL): "erect or prostrate, rooting at the nodes of prostrate branches"
Lundell 14926 (LL): "prostrate shrub"
Runyon 2315 (TEX): "erect, prostrate shrub"
Traverse 1040 (MO, TEX): "shrub-vine, 20 cm, crawling on ground, ultimate twigs upright"

Other collections by Lundell (LL) have described the Texas plants simply as "shrubs" varying in height from 1 to 6 feet).

In contrast, Florida plants consistently are described as shrubs to small trees 1–3 meters high. Felger et al. (2001) described *M. phyllanthoides* in northern Sonora as "Mound-shaped hardwood shrubs or sometimes small trees 4–6(–8) m," and other collections from

Mexico are characterized as trees 2–7 meters high, shrubs 2–6 feet high, and shrubs 12 feet high. I have examined 120 collections (MO, TEX, LL) of typical *M. phyllanthoides* from Florida and Mexico—none was described as prostrate or decumbent.

Lundell (1969) and Correll and Johnston (1970) treated the Texas/Tamaulipas plants as *Maytenus texana* Benth., citing *M. phyllanthoides* var. *ovalifolia* Loes. as a synonym. Richardson (1995), Turner et al. (2003), and the PLANTS Database (USDA, NRCS 2008) have identified them as *M. phyllanthoides*. Leaf morphology and habit of these plants, however, contrast with typical *M. phyllanthoides* and it is useful to recognize them as a taxon distinct from the typical expression. Still, the differences are relatively slight compared to those between other species of *Maytenus*, and even though the Texas/Tamaulipas population system appears to be geographically separated from typical populations, there are seemingly intermediate plants in San Luis Potosí that are erect shrubs but that have obtuse leaf bases.

Mexico: San Luis Potosí. 1 km N of Huizache Jct, alkaline desert flat, 7 Nov 1960, *Johnston 6034* (LL, TEX); ca 2 km airline SE of Huizache Jct, ca 5 km W of El Huizache, matorral, 1400 m, 19 May 1973, *Johnston et al. 11113* (LL).

Treatment of the Texas/Tamaulipas plants at varietal rank is appropriate, although a case might be made for recognizing them at specific rank.

Maytenus phyllanthoides Benth., Bot. Voy. Sulphur 54. 1844.
Tricerma phyllanthoides (Benth.) Lundell, Wrightia 4: 158. 1971. Type: Mexico. Baja California Sur: Bay of Magdalena, 1837, *R.B. Hinds s.n.* (holotype: K).

Flowering Feb–Aug or probably all year in some areas. Dunes, inland margins of mangrove, along coastal bays and inlets, near-coastal arroyos and salt scrub, alkaline desert flats, gypseous soil along stream beds, matorral (*Larrea-Flourensia*, *Agave-Larrea-Dasylirion-Opuntia*), cedar forests, mesquite woods; (2 m, dunes) 720–2200 meters elevation. U.S.A. (Florida); Mexico (Baja California Sur, Chiapas, Coahuila, Hidalgo, Jalisco, Nuevo León, Puebla, Querétaro,

Quintana Roo, San Luis Potosí, Sinaloa, Sonora, Veracruz, Yucatan); Cuba; Bahamas. I have examined specimens from all of the Mexican states except Veracruz and Jalisco.

Maytenus phyllanthoides var. **ovalifolia** Loes., Repert. Spec. Nov. Regni Veg. 8: 291. 1910. Type. Mexico. Tamaulipas. Rincon del Toro on the "Laguna Madre," Jun [1905], *R. Endlich 552* (holotype: B). Endlich's collection was made about 45 miles south of Brownsville.

Maytenus texana Lundell, Phytologia 1: 306. 1939. *Tricerma texana* (Lundell) Lundell, Wrightia 4:158. 1971. Type: U.S.A. Texas. Cameron Co.: mesquite woods between Los Fresnos and Port Isabel, 23 Apr 1933, *E.U. Clover 986* (holotype: MICH).

Flowering Mar–Jun, fruiting Jun–Aug(–Dec). Shrublands and thickets, commonly with *Acacia* and *Forestiera*, mud flats, salt flats, low ridges, clay mounds, clay dunes, loamy sand, sandy clay, saline clay; 2–10 meters elevation. U.S.A. (southern Texas); Mexico (northeastern Tamaulipas). Illustrations are published in Lundell (1969, line drawing), Richardson (1995, color photo), and Everitt et al. (2002, color photo).

I have seen only a single collection of var. *ovalifolia* from Mexico: Tamaulipas. Coastal flats S of Matamoros, 9 Feb 1939, *LeSueur 529* (TEX).

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